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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,328	12/23/2003	Hideyoshi Okita	2888-101	5586
6449 7590 01/09/2009 ROTHWELL, FIGG, ERNST & MANBECK, P.C. 1425 K STREET, N.W. SUITE 800 WASHINGTON, DC 20005				
EXAMINER STULIL VERA				
ART UNIT		PAPER NUMBER		
1794				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

Office Action Summary

Application No.

10/743,328

Applicant(s)

OKITA, HIDEYOSHI

Examiner

VERA STULII

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-29 and 64-70 is/are pending in the application.
- 4a) Of the above claim(s) 30-63 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-29 and 64-70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/888)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-9, 11-13, 15, 17-29 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narumiya et al (US 6,217,928) in view of Lamb (4,399,667) for the reasons of record stated in the Office action mailed March 17, 2008.

Claims 14 and 16 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Narumiya et al (US 6,217,928) in view of Lamb (4,399,667) and further in view of Grewar (US 4,325,221) for the reasons of record stated in the Office action mailed March 17, 2008.

Claims 64-66 and 68-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narumiya et al (US 6,217,928) in view of Lamb (4,399,667) and further in view of Woodruff et al. (US 4,522,835) for the reasons of record stated in the Office action mailed March 17, 2008.

Response to Arguments

Applicant's arguments filed September 19, 2007 have been fully considered but they are not persuasive.

On page 12 of the Reply to the Office action mailed March 17, 2008, applicant states that "Narumiya and Lamb completely fail to teach or disclose the claimed invention". Examiner respectfully disagrees. As stated in the previous Office action,

Narumiya et al disclose "a process of freezing a group of sushi ... comprising: placing the group of sushi on a vessel, and disposing the vessel in a freezer and freezing the group of sushi, the freezing comprising: a first freezing step in which the group of sushi placed on said vessel is disposed in the freezer, and the temperature of a rice ball part of the sushi is reduced from an initial temperature to a freezing point in a range of 0°C to -4°C.; a second freezing step in which the temperature is reduced to a temperature in the range from the freezing point to -10°C and maintained at this temperature for a predetermined period of time until passing of a maximum ice generation temperature range" (Claim 1). Narumiya et al disclose that "second freezing step being carried out for a time which is set to be longer than the first freezing step" (Claim 1). Narumiya et al disclose that "the time of said second freezing step is set to about 13 to 35 min" (Claim 4). In regard to claim 8, Narumiya et al disclose the gradient of the second freezing step of 0.5 °C /min (Claim 6). In regard to claims 9, 10 and 11, Narumiya et al disclose air-purged packaging step after freezing (Fig. 7, Fig. 6). In regard to claim 12, Narumiya et al disclose "the sushi is disposed in vessels in the freezer with a plurality of sushi pieces held in rows in each vessel, and the freezer then is preliminarily cooled down to about 0 to -15°C and freezing is started, the freezing comprising a first temperature reduction step in which the temperature of the freezer is reduced from the preliminary cooling temperature to about -30°C in about 5 to 25 minutes from the start of freezing of the sushi, and a subsequent second temperature reduction step to a temperature lower than -30°C" (Claim 10). Narumiya et al disclose that "the sushi is disposed in the freezer in an enclosed state" (Claim 23). Narumiya et al disclose that frozen sushi were

removed from the freezer and packed at temperature of 25°C. In regard to claim 13, Narumiya et al disclose that "it is suitable to freeze the food in what is commonly called a slight air supply space with air supplied at a minimum rate into the freezer" (Col. 8 lines 12-15). In regard to claims 17-29, it is noted that "first predetermined temperature" is a room temperature before freezing which is approximately 20-25°C and is in the range recited. The "second predetermined temperature" corresponds to the "first freezing step" and the temperature in a range of 0°C to -4°C (see above). The "third predetermined temperature" corresponds to the "second freezing step" and temperature of -10°C (see above). In regard to claims 18 and 19, Narumiya et al discloses "that a second freezing step in which the temperature is reduced to a temperature in the range from the freezing point to -10°C and maintained at this temperature for a predetermined period of time until passing of a maximum ice generation temperature range (Claim 1). Regarding packaging step, Narumia et al disclose that not only sushi, but also boiled rice or the like (food with boiled rice as a main component) is disposed in a non-packed or packed state in the freezer, and then freezing is started" (Col. 6 lines 62-65). In regard to claim 9, Narumiya et al discloses onigiri (sushi made with regular steamed rice and rolled into a ball with other ingredients) in a packed state (Col. 6 lines 59-65).

Narumia et al do not disclose controlling an incident angle between dry ice in freezer and a circulation of air within the freezer.

Lamb discloses apparatus for chilling a plurality of food trays. Lamb discloses "chilling system for a food service cart which supports pieces of dry ice in a bunker for maximum heat transfer relative to a stream of circulating air moving through the cart"

(Col. 1 lines 61-64). Lamb discloses that "the construction of the chiller bunker 42, with its channels 66, greatly enhances the efficiency of heat transfer since the downwardly moving cold CO₂ gas can be readily picked up by the circulating air stream from the fan 24" (Col. 4 lines 25-27). Lamb discloses that the fan 24, by being positioned at an angle helps direct air into the channels 66 and under the dry ice (Col.4 lines 28-30).

Since Narumia et al teaches method of freezing food articles and Lamb discloses apparatus for chilling and enhancing the efficiency of heat transfer, it would have been obvious to modify disclosure of Narumia et al and to control an incident angle between dry ice in freezer and a circulation of air within the freezer to enhance the efficiency of heat transfer as taught by Lamb et al. Since Lamb discloses importance of directing air at specific angle, and thus it would have been obvious to control an incident angle between dry ice in freezer and a circulation of air within the freezer to enhance the efficiency of heat transfer as taught by Lamb et al.

On page 12 of the Reply to the Office action mailed March 17, 2008, applicant states that "neither Narumiya nor Lamb disclose or suggest the method of freezing food wherein the cooling steps include placing the food in a calorie exchange relationship with circulating air and dry ice in a high calorie exchange cooling unit as required by independent claims 1 and 17". Examiner respectfully disagrees. Combination of Narumia et al in view of Lamb et al teaches the method of freezing food wherein the cooling steps include placing the food in a calorie exchange relationship with circulating air and dry ice in a high calorie exchange cooling unit as required by independent claims 1 and 17. High calorie exchange unit requires high calorie exchange cooling

source such as dry ice and high calorie exchange rate. Further in this regard, it is noted that Lamb et al does disclose pieces of dry ice in a bunker for maximum heat transfer relative to a stream of circulating air moving through the cart.

In response to applicant's arguments regarding claims 1 and 17 on pages 13 and 14 of the Reply, Applicant is referred to the response as stated immediately above.

On page 14 of the Reply, applicant states that "Narumiya fails to disclose a step of packaging sushi prior to cooling". In response to this argument it is noted that cooling and/or freezing of preliminary packaged foods was a well established practice in the art. Therefore, one of ordinary skill in the art would have been motivated to modify Narumia et al and to manipulate the sequence of steps by packaging food product prior to freezing.

On page 15 of the Reply, applicant states that "[d]ependent claim 15 is allowable over Narumiya in view of Lamb for the separate and independent reason that the combination does not disclose adjusting a variable cooling feature in a method for freezing food by "controlling an incident angle between dry ice in said freezer and a circulation of air within said freezer" as required by claim 15". Examiner respectfully disagrees. As stated in the previous Office action, since Narumia et al teaches method of freezing food articles and Lamb discloses apparatus for chilling and enhancing the efficiency of heat transfer, it would have been obvious to modify disclosure of Narumia et al and to control an incident angle between dry ice in freezer and a circulation of air within the freezer to enhance the efficiency of heat transfer as taught by Lamb et al. Since Lamb discloses importance of directing air at specific angle, and thus it would

have been obvious to control an incident angle between dry ice in freezer and a circulation of air within the freezer to enhance the efficiency of heat transfer as taught by Lamb et al.

On page 15 of the Reply, applicant states that a person of ordinary skill in the art would not combine Grewar with Narumiya or Lamb. Examiner respectfully disagrees. Grewar discloses a method for reducing the temperature of food articles. Grewar discloses a method which prevents or at least greatly reduces moisture loss from food articles to be refrigerated" (Col.2 lines 30-33). Grewar discloses "a method of refrigerating a moist article comprising the steps of quick chilling a thin outer layer of the article to seal the moisture therein by contacting it with a cryogenic liquid and subsequently cooling the article" (Col. 2 lines 40-44). Grewar discloses liquid carbon dioxide as a "cryogenic liquid" (Col. 2 lines 63-64). Since Narumiya et al disclose method of freezing moist food articles, Lamb discloses apparatus for chilling and enhancing the efficiency of heat transfer, and Grewar discloses a method which prevents or at least greatly reduces moisture loss from food articles to be refrigerated using liquid carbon dioxide, it would have been obvious to modify combined disclosure of Narumiya et al and Lamb and employ a refrigerating method using liquid carbon dioxide in order to reduce loss of moisture as disclosed by Grewar.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VERA STULI whose telephone number is (571)272-3221. The examiner can normally be reached on 7:00 am-3:30 pm, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JENNIFER MCNEIL can be reached on (571)272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steve Weinstein/
Primary Examiner, Art Unit 1794

VS